Office of the City Auditor

The Impact of Clean Air Mandates on the City's Light Duty Trucks and Passenger Vehicles Report No. 0161B

August 20, 2003

The City needs to evaluate efforts undertaken to comply with federal and state clean air mandates. During FY 01/02, there were 144 dual fuel light duty and passenger vehicles in service under the Alternative Fuel Program that used at least 100 gallons of fuel. Approximately one third of these vehicles operated on gasoline more than 90 percent of the time. This situation exists because there is no review of the potential for CNG use prior to acquiring dual fuel vehicles and no requirement to use CNG once the vehicle is placed into service. As a result, the City expends funds for equipment that is not used in some cases, and used only to a minimum extent in other cases. In addition, the City fails to comply with state mandates to progressively increase the use of alternative fuels and continues to fall below the minimum quantity guarantee set out contractually with the third party vendor that provides CNG to the City.

"Most Livable City"

U.S. Conference of Mayors

OFFICE OF
CITY AUDITOR

7440 E. FIRST AVE
SCOTTSDALE, AZ 85251

(480) 312-7756 PHONE
(480) 312-2634 FAX

August 20, 2003

To the Most Honorable Mary Manross, Mayor
and Members of the Scottsdale City Council

This report addresses issues identified during the completion of an audit on the controls over the acquisition and use of light duty passenger vehicles and trucks (the Fleet Audit). The scope is limited to findings related to the City's efforts to comply with clean air mandates that impact the operation of the City's fleet of vehicles.

While completing work for the Fleet Audit, we identified another environmental related state mandate that we believe needs to be addressed. This issue came to light when we noted that an employee was using a City provided vehicle to commute to another City facility. The vehicle was parked at the site and the employee rode the bus home. This arrangement, according to the employee's previous manager, was allowed because it helped the employee participate in an accepted travel reduction program (i.e., the City provides bus passes to employees who choose to ride the bus to work). According to the employee's current manager, the use of the vehicle for this activity was discontinued after we raised concerns about the appropriateness of the use.

Arizona Revised Statute (ARS), §49-588, *et al,* sets out requirements for major employers[1] to annually:

1. Provide each regular employee with information on alternate modes of transportation and travel reduction measures.
2. Participate in a survey and reporting effort to form a baseline against which the targets of the program will be measured.
3. Prepare and submit a plan outlining travel reduction measures that will be undertaken by the organization.

We found, however, that while the City submits an annual plan outlining steps that will be taken and the measures used to gauge the effectiveness, there is no citywide regulation addressing travel reduction efforts. As a result, there are no established parameters to set boundaries for the actions that can be taken to support travel reduction efforts. The lack of such a regulation could result in individual managers

[1] A major employer is defined as any employer with one hundred or more employees working at or reporting to a single work site with the exception of Area A in which the number is fifty.

implementing travel reduction activities which are either not available to other City employees, or which would be more effective if coordinated through a central point.

But, more importantly, without documented expectations for the individual appointed as the "Transportation Coordinator," there is no effective oversight function to coordinate reviews of activities purported to be in support of travel reduction efforts. The oversight would provide the mechanism necessary to compile data that would allow the City to gauge, periodically, whether or not the efforts undertaken actually impact the number of single occupancy trips.

We recommend that the City Manager require the development of a citywide regulation addressing efforts to be undertaken to reduce single occupancy trips to and from work as well as trips necessary for City business. The regulation should identify the City's "Transportation Coordinator" and set sufficient expectations for this individual to actively monitor the actions agreed to by the City when the Plan was submitted to the Maricopa County Trip Reduction Program. Appropriate parameters should be developed to provide guidance for activities such as "telework" arrangements to ensure consistent treatment throughout the organization. Finally, relevant performance measures should be developed to monitor progress and the results of efforts should be periodically provided to the City Manager and Council.

We also recommend that the City Manager require revisions to Administrative Guideline #300, "Alternative Work Schedules and Workweek." According to the purpose statement, the guideline was developed to "ensure compliance with clean air standard, trip reduction programs, and the Fair Labor Standards Act." It has not been updated since 1994. As such, it does not meet the current standard for policy development. For example, there is no department assigned responsibility for administration and enforcement, and there is no discussion of the controls that will be implemented to ensure that the desired outcome is achieved.

If you need additional information or have any questions, please contact me at 480-312-7756.

Respectfully submitted,

Cheryl Lee Barcala

Cheryl Barcala, CPA, CIA, CFE, CGFM, CISA, CISSP
City Auditor

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EXECUTIVE SUMMARY

In September 2001, the City Auditor's Office initiated an audit of the controls over the acquisition and use of light duty passenger vehicles and trucks. This report, the fourth in a series, discusses the City's efforts to comply with air quality mandates that impact the operation of the City fleet.

To complete this work, we reviewed air quality requirements outlined in the state statutes as they relate to vehicles owned and operated by municipal entities. We compared these requirements to the existing circumstances within the City to determine if compliance was achieved. We also reviewed City policy documents and interviewed City staff to obtain information on formalized policies and procedures addressing the purchase and use of alternative fuel vehicles. We searched City documentation and interviewed staff members in an attempt to determine whether any program objectives or measures were established to gauge the success of City efforts to use alternative fuel vehicles in its operations. In addition, we reviewed the City contract with an outside vendor that provides compressed natural gas (CNG) for City use. This report is limited to issues related to these items.

Ramon Ramirez, Auditor-In-Charge, Stella Fusaro, and Eric Spivak completed the project. Audit work was conducted in accordance with generally accepted government auditing standards as they relate to expanded scope auditing as required by Article III, Scottsdale Revised Code, §2-117, *et seq.*

Results in Brief

ARS, §9-500.04, requires cities and towns, meeting certain criteria, to develop and implement a vehicle fleet plan that encourages and progressively increases the use of alternative fuels or clean burning fuels[2] in vehicles owned by the city or town. The City has been an active supporter of the use of alternative fuel for almost 20 years. In 1987 and 1993, City Councils expressed support for such efforts. Ten years later, support for alternative fuel continues and is evidenced in the fiscal year (FY) 02/03 budget book where the Fleet Management Division includes a goal to "Comply with Federal and State Clean Air Mandates." This effort is referred to as the "Alternative Fuel Program."

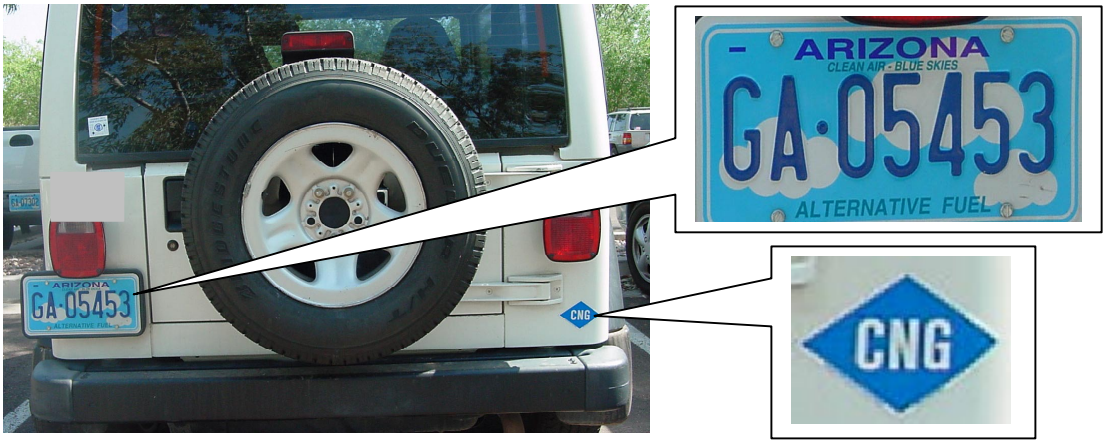
This program is one of the many smaller programs that exist within the high-level programs compiled for budget review. Because it does not rise to the level of an actual program, information regarding the cost or the outcomes achieved is not compiled and submitted to the Citizen Budget Committee or the City Council for deliberation of ongoing financial commitment. The

[2] For ease of discussion, the term alternative fuel will be used throughout this report in place of the phrase "alternative fuels or clean burning fuels."

Alternative Fuel Program could, however, be eliminated should a decision be made that the program is not effective.

To support use of alternative fuels, the City currently expends an average of $6,000 per dual fuel vehicle to have them equipped with CNG capabilities. This represents a significant investment of City resources. For example, if this average remains constant and the City elects to replace the 148 dual fuel vehicles currently in the City's fleet at the end of their useful life, the cost to equip those vehicles with CNG capabilities would approximate $888,000. In addition, each year operational funds reflect the ongoing cost of the program because replacement rates include sufficient funds to continue to acquire CNG capable vehicles. Rental rates[3] also reflect an annual expenditure of approximately $27,000 because the City does not meet the minimum quantity guaranteed under contractual arrangement to the vendor that built and operates the Via Linda CNG fueling station.

Currently, these expenditures are made without effective objectives and performance measures. Instead of focusing on efforts to increase use of alternative fuels, the only program measure is the number of alternative fuel capable vehicles placed into service. Because vehicles acquired for the program are "dual fuel," simply counting vehicles provides no insight into the effectiveness of the program. For example, the photograph below shows a vehicle that is tracked and reported as an "alternative fuel vehicle." Although this vehicle used 2,185 gallons of fuel for the 18-month period ending December 31, 2002, only 11.3 gallons were CNG.



From February 1, 2003, to May 14, 2003, the vehicle fueled 79 percent of the time at a fueling station in which CNG was readily available. During this period, 542.5 gallons of fuel was used, none was CNG. This is only one example. Of the 150 vehicles tracked as dual fuel in the first six months of FY

[3] A user fee charged each department assigned City vehicles. The rental rate is structured for Fleet to recover its annual costs and consists of maintenance and operation fees (to recover the average costs of fuel, parts, and labor for the vehicle class), as well as replacement vehicle acquisition fees.

02/03, 24 failed to use any CNG at all.[4] Two vehicles reported no fuel usage at all, raising a question as to why the vehicles were still included as part of the active fleet.

We believe the current situation exists because responsibility for the "Alternative Fuel Program" has not been set. While Fleet Management attempts to increase the number of alternative fuel capable vehicles within the City fleet, there is no citywide regulation that sets responsibility, either at the upper management level or the employee level, for actual CNG use. There is no requirement for monthly status reports to encourage monitoring of fuel consumption in dual fuel vehicles.

Moreover, environmental goals for the program are non-existent. The City's Senior Environmental Coordinator plays no active role in promoting the program or monitoring the impacts on measures such as the reduction in the volume of Volatile Organic Compounds (VOCs) released by the City fleet.

We confirmed that the City is not currently in compliance with federal and state mandates. Further, there is no indication that efforts are underway to bring the City into compliance. As a result, we believe the "Alternative Fuel Program" needs to be re-structured or eliminated. If it continues, appropriate performance expectations and measures need to be developed and implemented. Several actions can be taken to make the program more successful. First, efforts could be made to bring a second CNG fueling station to the southern area of the community. This action will require a significant amount of funding. At one time, Fleet Management had estimated a cost of $250,000 to retrofit the Angus fueling site with CNG equipment. Failure to develop a second site will limit the benefit that can be achieved under the current alternative fuel program.

Second, use of CNG should cease to be voluntary. Employees assigned dual fuel vehicles should be accountable for minimum use requirements and vehicles should be reassigned if geographic conditions make CNG usage impractical. If it is unreasonable to expect CNG use, given the lack of reasonable access to a fueling facility, and the vehicle cannot be reassigned because of specialized equipment, the vehicle should no longer be considered an "alternative fuel" vehicle and it should be removed from consideration in calculating the funds required for the replacement of CNG equipment. Funds already held in the Fleet Reserve for this purpose should be returned to the General Fund for reallocation.

Third, the decision to exclude Police vehicles from the pool of potential CNG capable vehicles should be re-visited. There are multiple administrative

[4] One of these vehicles consumed almost 1,300 gallons of gasoline, an average of 217 gallons per month.

vehicles within the Department that are driven significant distances on a routine basis. The City of Phoenix and City of Mesa both include Police vehicles within their pool of alternative fuel vehicles.

If a decision is reached to terminate the program, the Fleet Management Division should be instructed to recalculate fleet rental rates to reflect the change. Rates should no longer reflect the additional cost of CNG related equipment and any related funds currently held in the Fleet Reserve should be returned to the General Fund for reallocation.

Our action plan, in the following section, details our recommendations, management's responses to those recommendations, and the implementation status of management's actions. The entire management response can be found in Appendix C.

We would like to conclude with a positive comment regarding the management of the program. As part of our work, we obtained the contract with the third party CNG provider and historical information concerning expenditures. We did not audit the contract, but we did note that the Fleet Management Division has implemented procedures to ensure that the City receives the benefit of contractually mandated caps that protect the City in the event that the cost of CNG exceeds what the City paid for gasoline during the prior fiscal year.

Action Plan

Recommendations	Management Response	Status
I. We recommend that the City Manager:		
A. Designate an individual or department with the responsibility to evaluate the City's current approach to addressing compliance with clean air mandates. The evaluation should begin with a decision on whether the City will continue its current efforts or whether a different course will be taken. This evaluation should give consideration to all related costs and benefits. At the conclusion of this evaluation, this individual or department should be charged with developing a policy that outlines the City's future efforts to comply with clean air mandates and the projected cost of compliance.	Agree – The City Manager has designated the Environmental Management Systems (EMS) Task Force led by Ed Gawf, Deputy City Manager, and coordinated by Larry Person, Sr. Environmental Coordinator, as the group responsible for evaluating the City's current approach to addressing compliance with clean air mandates as they relate to City-owned vehicles. This group is charged with conducting the evaluation and developing appropriate improvement recommendations for the City Manager's consideration.	Expected completion by July 1, 2004.
B. Designate responsibility for the "Alternative Fuel Program" until such time as a replacement program is developed. The individual assigned responsibility for the program should be required to: 1. Establish program objectives that address desired CNG use for City vehicles. 2. Establish program measures that can be used to evaluate the effectiveness of the program and appropriate reports that can be used to monitor compliance. 3. Set out the circumstances in which it is appropriate to acquire a dual fuel vehicle. Considerations should include: a) Location of CNG fueling station(s) relative to the employee duty station or job route, if applicable. b) Range of the vehicle when operating on CNG.	Agree – The City Manager has directed Danny Johnson, Fleet Management Director, to establish criteria and objectives for the purchase and operation of CNG fueled vehicles. This effort will encompass all appropriate factors relating to the purchase and operation of CNG vehicles.	City Manager expects to review proposals for enhanced criteria and evaluation by December 31, 2003.

Recommendations	Management Response	Status
c) Nature of duties the vehicle will be used to perform and whether operating on CNG would hamper performance of these duties. d) The vehicle operator's opinion on whether using CNG hampers their ability to carry out their job duties. e) For replacement vehicles, the history of CNG use for the previous vehicle. 4. Develop and document a plan to progressively increase the use of CNG. As part of this process: a) Evaluate current use patterns for re-assignment of vehicles. b) Identify current vehicles with historically high use of gasoline and evaluate the potential for replacement with a vehicle that is alternative fuel capable. c) Compile information on the potential to develop a CNG fueling site in the southern area of the community. d) Establish acceptable use guidelines along with incentives or penalties. 5. Formally adopt a methodology for calculating the percentage of the City fleet that is alternative fuel capable.		

Recommendations	Management Response	Status
C. Require submission of quarterly reports of outcomes and the efforts underway to increase the use of alternative fuels.	Agree – We will continue to submit progress reports measuring the City's commitment to reduce volatile organic compound (VOC) emissions. This commitment is one of four major environmental commitments by the City as a member of the National Environmental Performance Track program established by the EPA. This documentation will include all appropriate actions. The reports will be provided to the City Manager and the EPA.	
	Auditor Note: While reporting on VOC emissions may address commitments to the EPA, it will not give the City Manager insight into efforts to progressively increase CNG use or into progress made toward meeting contractual obligations to purchase a minimum amount of CNG from the outside vendor.	
D. Designate the party responsible for making an application for a waiver to the ARS alternative fuel requirements if the City does not meet the requirements.	Disagree-The state agency responsible for administering the waiver program has not established a waiver process, and recent budget cuts make it unlikely a process will be established this fiscal year. We will continue to monitor this situation, and adjust accordingly.	
	Auditor Note: The first step in the waiver process is to calculate whether the alternative fuel equipment can be obtained at a cost no greater than 10 percent more than continuing the use of gasoline over the expected useful life of the equipment. The minimum contents of the formula for this analysis are set out in ARS. Regardless of whether the Department of Environmental Quality has developed a standardized form, the City could still undertake the necessary analysis and present the information to City Council for consideration.	

BACKGROUND

Clean air requirements are set out in ARS, §9-500.04. These mandates require municipalities, meeting certain thresholds, to develop and implement a vehicle fleet plan that encourages and progressively increases the use of alternative fuels in municipal fleets. According to timetables, plans should have resulted in conversion of at least 75 percent by December 31, 2000.

Recognizing that these requirements might create financial hardships, provisions were included for the governing body of the municipality to waive the requirements if the net cost of equipment or refueling stations exceeded 10 percent of the cost associated with conventional fuel. Applications for waivers were to be filed with the Department of Commerce Energy Office.[5]

Calculating the Percentage of Fleet

A methodology for calculating the percentage of alternative fuel vehicles at the local government level was not set out when ARS, §9-500.04, was crafted. At the state level, ARS, §41-803, requires a certain percentage of vehicles, with a gross vehicle weight of 8,500 pounds or less, to be capable of operating on alternative fuels. Subsection M of §41-803 excludes the following vehicles from this requirement:

1. A vehicle to be used primarily for criminal law enforcement.
2. A motorcycle.
3. An all-terrain vehicle.
4. An ambulance.
5. A fire truck, a fire engine, or any other fire suppression apparatus.

The City has not documented the methodology that will be followed when calculating the percentage of vehicles operating on alternative fuels. However, a member of Fleet Management indicated that the City considers the following pool of vehicles to be the basis for the percentage calculation:

> All vehicles excluding vehicles which cannot be centrally fueled, emergency equipment, law enforcement vehicles, non-road vehicles, and vehicles over 8,501 lbs. gross vehicle weight. Vehicles in excess of 8,501 lbs. gross vehicle weight that due to their mission can be operated on alternative fuel except bio-diesel are to be included in the Total Fleet definition.

[5] Revisions to the ARS, in August 2002, reassigned this responsibility to the Department of Environmental Quality.

City Efforts to Comply With ARS Clean Air Mandates

The City uses CNG for light duty vehicles; City-owned buses operate on liquefied natural gas (LNG). As of March 2003, the City has 148 dual fuel light duty vehicles (i.e., units that can operate on either CNG or gasoline). This number, according to Fleet management, represents conversion of approximately 35 percent of the fleet. Vehicles are either acquired from the manufacturer with the appropriate equipment or, as in prior years, retrofitted by outside vendors. Once a vehicle is purchased or converted to use CNG, the assumption is that each subsequent replacement vehicle will also be capable of operating on alternative fuel. As such, the fleet rental rate (paid by the user departments) for that vehicle classification is increased to reflect the additional funds needed to equip the replacement vehicle with similar alternative fuel capabilities.

The City does not deploy CNG capable vehicles within the Police Department regardless of the potential for use. For vehicles assigned to other departments, the decision is based on equipment availability without regard for the potential for actual alternative fuel consumption; use of CNG is voluntary. The table below shows the trend of CNG usage for the last three fiscal years and the use for the first six months activity of FY 02/03.

Vehicles Consuming at Least 100 GGEs[6] of Total Fuel
(Excluding forklifts and buses)[7]

Percentage of CNG To Total Fuel Usage	FY 99/00 Number of Vehicles	FY 00/01 Number of Vehicles	FY 01/02 Number of Vehicles	FY 02/03[8] Number of Vehicles
75 to 100.00%	9	32	35	34
50 to 74.99%	16	29	23	23
25 to 49.99%	23	27	25	13
10 to 24.99%	23	22	12	14
0 to 9.99%	50	34	49	49
TOTALS	121	144	144	133[9]

SOURCE: Audit analysis of fuel use information provided by Fleet Management.

[6] Gasoline Gallon Equivalent.

[7] Appendixes A and B present schedules of fuel use for all dual fuel vehicles for FY 01/02 and FY 02/03.

[8] Based on activity between July 1 and December 31, 2002 (the most current information available at the time of our fieldwork).

[9] Total number of vehicles will not agree with the total number of CNG capable vehicles because some dual fuel vehicles use less than 100 total gallons of fuel per year.

To encourage alternative fuel use, the City has an informal program known as "First Fuel" advertised on the City's Fleet Management Intranet site. The information on the site indicates that:

- The City is mandated by the Arizona Department of Environmental Quality to operate a percentage of vehicles on alternative fuels to help with the air quality.
- Fleet Management urges customers that operate CNG/gasoline vehicles to do their part for a cleaner environment by using CNG as their "First Fuel" each day.
- If a vehicle does not run well on CNG, employees are encouraged to contact Fleet as soon as possible to schedule the vehicle for maintenance.
- Unleaded/CNG fuel usage reports are available by division that can be used to monitor unleaded and CNG usage.

In past years, the City awarded gift certificates to promote use of CNG (awarded to the operator who showed the most support for the first fuel program as well as the operator with the most improvement in using CNG). According to staff, this practice was discontinued at the start of FY 02/03 because City Store gift certificates were no longer made available for the program. According to staff in the City's Environmental Office, an annual award program has taken the place of the monthly awards.

Providing CNG for Use in the City

To provide CNG, the City historically had two fueling stations: one at the Angus Drive fueling station and one at the Via Linda Campus. However, in December 2000, the CNG fueling equipment at Angus Drive became inoperable as a result of lightning damage. Due to the age and pressure limitations of the equipment, as well as the projected costs, CNG fueling capabilities have not been restored there.

The Via Linda CNG fueling station is operated by a third party vendor and is open to the public as well as City employees. This facility is operated under a ten-year contract (March 3, 1997), with the vendor paying the cost of constructing and equipping the station to make it operational. In addition, the vendor is responsible for all maintenance, utility, and operating costs. The vendor has the option of extending the contract up to an additional five years if they provide full, complete, and timely performance on the agreement. Upon termination of the contract, the City assumes ownership of the station and equipment.

Under the agreement, the City is committed to request, on an annual basis, no less than 100,000 GGE's of natural gas. According to the Municipal Services General Manager, this was the best proposal received under a competitive

selection process. Due to timing with construction, FY 99/00 was the first year in which the guarantee was in effect.

Each month the City is billed the cost incurred by the vendor to acquire the natural gas requested by the City and a pre-established premium (this premium escalates each year based on a formula set in the contract). Then, at the end of each fiscal year, actual CNG requested is calculated and, if necessary (if the City requested less than 100,000 GGEs), the City pays the vendor the premium on the difference between the GGEs requested and the amount guaranteed. Up to this point, the City has yet to meet the guarantee. The table below shows the shortfall paid over the past three years.

COST OF SHORTFALL IN MEETING GUARANTEED MINIMUM

	CNG OBTAINED UNDER THE CONTRACT WITH TRILLIUM			
DESCRIPTION	**FY 99/00**	**FY 00/01**	**FY 01/02**	**FY 02/03**
Guaranteed CNG GGE Request	100,000	100,000	100,000	100,000
Less: Actual CNG Used	22,776	44,890	43,670	45,530[10]
Equals: Shortfall	77,224	55,110	56,330	54,470
Premium per CNG GGE	0.472	0.488	0.489	0.496
Shortfall Cost	$36,450	$26,894	$27,545	$27,017

SOURCE: Audit analysis of vendor invoices and use information provided by Fleet Management.

The contract includes a "stop loss" provision to cap the cost of CNG. Under terms of the agreement, the average cost per gallon of gasoline for the preceding year is calculated (104 percent of the City's contract price for gasoline for the previous fiscal year along with applicable taxes and minus 6 cents). Then, each month the cost of the CNG (including the premium) is compared to this baseline; the City pays the lower rate.

The City also receives a $0.03 credit for each GGE sold to any non-City user. According to Fleet Management records, this credit averaged $1,009 for FY 00/01 and FY 01/02, the last two complete fiscal years at the time of our fieldwork. During this period, CNG sold to non-City users has averaged 2,803 GGE per month.

Economy of Usage

Fleet Management has a tracking system that is capable of generating reports on fuel usage for each vehicle. The reports track both volume of gasoline and CNG. However, because there is no way to judge the mix of gasoline and CNG used prior to refueling, information needed to gauge CNG fuel economy

[10] Projection based on first six months of actual use. Actual FY 02/03 usage was obtained after the completion of fieldwork and indicated that 44,945 GGEs of CNG was actually used during this period.

is not available. The Fleet Director did indicate that he has not noted any difference in the fuel economy of the dual fuel vehicles relative to similar types of vehicles that operate only on gasoline.

To obtain information regarding potential issues with fuel economy, we spoke with the City of Mesa Fleet Director. The City of Mesa has been aggressive in efforts to incorporate alternative fuel vehicles; even Crown Victorias assigned to police officers are purchased equipped to operate only on CNG. According to the Mesa Fleet Director, based on a fuel economy study his department conducted within the last two years, CNG vehicles achieve a rating similar to gasoline only vehicles. The results of the study indicated that CNG-only vehicles obtained an economy rating of about .7 miles per gallon less than the similar gas vehicles.

Benefits of CNG

Natural gas is a mixture of hydrocarbons consisting primarily of methane (an unreactive hydrocarbon). As a result, it burns cleaner than petroleum based products, even reformulated products. According to the Natural Gas Coalition, dedicated natural gas vehicles can reduce exhaust emissions of carbon monoxide by 70 percent, non-methane organic gas by 89 percent, and nitrogen oxides by 87 percent. Vehicles can also reduce carbon dioxide (the greenhouse gas) by 20-30 percent. Moreover, natural gas emits virtually no particulate matter, thereby, reducing the potential for the haze attributed to vehicle emissions.

As well, most natural gas consumed in the United States comes from domestic supplies. Using this source improves energy security as well as the balance of U.S. trade by reducing the reliance on oil production from OPEC members and the Persian Gulf.

Deterrents to Use of CNG

Within the City, staff reported three primary deterrents to using CNG once a vehicle is placed in service:

- Additional fueling time.
- Safety fears.
- Availability of fuel.

Dual fuel vehicles historically have had limited capacity CNG tanks (between 3 and 8 gallons). The tank size could impact the percentage of CNG used for the fuel needs of vehicles driven a high number of daily miles. The tanks are time consuming to fill and, because of the small size, have limited range. As a result, complying with the request to make CNG the first fuel of the day would require, in some cases, daily trips to the fueling station. Staff also reported

CNG system malfunctions and performance issues especially with the 2400-psi systems (the City no longer uses 2400-psi systems).

In addition, management reported that some staff are concerned with the safety of the fuel. However, it appears that this fear is more perception than fact. There is no record of increased risk associated with the use of the fuel. According to the Senior Environmental Coordinator, the City's Risk Management Division determined that there is no additional risk associated with CNG use.

The lack of convenient fueling sites is the greatest deterrent to using CNG. The Via Linda Station is the only location offering alternative fuel. The closest publicly available site in the southern area of the community is located at Arizona State University. According to Fleet Management, it will cost approximately $250,000 to make the Angus Station operational.

THE CITY NEEDS TO EVALUATE ITS CURRENT APPROACH TO REDUCING AIR POLLUTANTS RELEASED BY THE CITY FLEET

ARS, §9-500.04, was crafted to respond to clean air mandates set out by the Environmental Protection Agency (EPA). The City has made a commitment to comply with these mandates. This is evidenced in objectives set out by the Fleet Management Division of the Municipal Services Department.

As well, documents filed in 2000 seeking acceptance to the *National Environmental Performance Track,* a program offered by the EPA, outlined efforts made to improve the environment. According to this application:

> *Dual-fuel vehicles now use three (3) times more compressed natural gas (CNG) compared to one (1) year ago.*

Future achievements were set out as:

1. Five percent reduction in volatile organic compound (VOC) emissions within the next three years through the reduction in number of gallons of unleaded gasoline consumed.
2. Five percent increase of City fleet vehicles converted with dual fuel capabilities.

Our work, however, found that the current approach used by the City is ineffective as a means of progressively increasing use of the alternative fuels. As a result, the City is not complying with state mandates. Moreover, the efforts result in an expenditure of funds that fails to achieve the objective of reducing VOC emissions from vehicles in the City fleet.

We found:

1. No written plan for increasing the use of alternative fuel in vehicles used for City operations.
2. No methodology that would ensure that alternative fuel vehicles are assigned to areas with the most potential to reduce use of gasoline.
3. No effective goals and meaningful performance measures either citywide or at the department level.
4. No documented methodology for calculating the percent of vehicles converted to alternative fuels and no documented methodology for determining compliance with established programs such as "First Fuel."
5. No process to review usage prior to the decision to incur the expense to obtain a replacement vehicle.

A Comprehensive Plan for Achieving Clearly Defined Goals Could Result in Increased CNG Use

ARS, §9-500.04, requires specific actions by cities and towns with populations exceeding 7,500 located in defined areas of Maricopa County:

1. Adjust the work hours of at least 85 percent of municipal employees each year beginning October 1 and ending April 1 in order to reduce the level of carbon monoxide concentrations caused by vehicular travel.
2. Synchronize traffic control signals on all existing and new roadways, within and across jurisdictional boundaries, which have a traffic flow exceeding fifteen thousand motor vehicles per day.
3. Develop and implement plans to stabilize targeted unpaved roads, alleys, and unpaved shoulders on targeted arterials.[11]
4. Acquire or utilize vacuum systems or other dust removal technology to reduce the particulates attributable to conventional crack sealing operations.
5. Develop and implement a vehicle fleet plan for the purpose of encouraging and progressively increasing the use of alternative fuels and clean burning fuels in vehicles used for municipal operations.

To ensure that the use of alternative fuels is progressively increased in municipal fleets, a timetable was set out statutorily requiring conversion of at least 75 percent of the total fleet by December 31, 2000. Based on calculations made by Fleet staff, the City currently has 35 percent[12] of the non-police fleet capable of operating on CNG. Even though the City is not in compliance with state mandates, we found no evidence that a request for waiver was submitted to the Council and filed with the appropriate oversight agency.

We also found that there is no indication that current efforts are sufficient to ensure that use of CNG progressively increases. While there was a significant jump in the use of CNG between FY 99/00 and FY 00/01, there has been little change in the last two fiscal years. CNG usage nearly doubled from 24,797 GGEs in FY 99/00 to 46,097 GGEs in FY 00/01. Since then, usage has remained relatively constant with 43,670 GGEs used in FY 01/02 and 45,530 projected for FY 02/03.[13]

According to Fleet staff, there is no ramification if the City does not comply with requirements set out in the ARS. Staff reported that the regulations are "toothless" as there is no agency established to monitor compliance; even the

[11] Beginning January 1, 2000.

[12] This percentage is actually lower because the City leases a number of vehicles for extended periods. These vehicles are not tracked and were not included when the percentage was calculated.

[13] Actual FY 02/03 usage was obtained after the completion of fieldwork and indicated that 44,945 GGEs of CNG was actually used during this period.

agency historically responsible for processing waivers (the Department of Commerce Energy Office[14]) failed to establish a process.

Frankly, the question as to whether or not there is any ramification for non-compliance is a moot issue. The City Council has set out a broad goal to preserve the character and environment of Scottsdale. City management has set out performance expectations to comply with the mandate:

> *Continue the implementation of the City's Alternative Fuel Program in order to meet current and future State and Federal Clean Air mandates.*
>
> **SOURCE**: City of Scottsdale FY 02/03 Budget.

When an organization wants to achieve certain desired outcomes, a comprehensive plan for reaching those goals is a control mechanism that aids the success of the related program. ARS, §9-500.04, recognized the need for a plan and statutorily mandated that municipalities develop and implement such a plan.

However, there is no evidence that the City has a plan that will actually progressively increase the use of alternative fuels. We found nothing documented other than statements alluding to existing programs (objectives set out in budget documents, commitments made to the EPA, and discussion of the "First Fuel" program on the Fleet Intranet site). Neither Fleet Management nor the Senior Environmental Coordinator could provide anything in writing setting out the "Alternative Fuel Program," the "First Fuel Program," or the City's commitment to decreasing the use of gasoline through use of alternative fuel vehicles.

The failure to achieve a progressive increase in the use of CNG within the City fleet has two negative impacts:

- Greater expenditures than necessary to provide CNG for City vehicles because the City is not moving closer to the guaranteed minimum required under the contract with the CNG vendor.
- No continued decrease in the VOC and particulates released by City vehicles because there is no decrease in the use of unleaded gasoline.

Greater Expenditures Than Necessary

As discussed in the background section, the City guaranteed to request no less than 100,000 GGEs of natural gas per fiscal year. Although there is a stop loss provision in the contract that ensures that the cost per GGE never

[14] In 2002, legislative modifications replaced the Department of Commerce Energy Office with the Department of Environmental Quality. This agency is mandated to develop a standardized waiver application. Waiver applications received by the Department are to be published in the Arizona Administrative Register by the Secretary of State.

exceeds the average cost of unleaded gasoline paid by the City during the previous fiscal year, this provision is rendered ineffective because the City pays the vendor the premium on the quantity guaranteed even if the CNG is not used. The impact of this can be seen in the table below.

IMPACT ON GGE PRICE OF CNG ACTUALLY CONSUMED
UNDER THE TRILLIUM CONTRACT

DESCRIPTION	FY 99/00	FY 00/01	FY 01/02	FY 02/03
Shortfall Cost	$36,450	$26,894	$27,545	$27,017
Divided by Actual Trillium CNG Used	22,776	44,890	43,670	45,530[15]
Shortfall Impact on the per GGE Cost of CNG	$1.60	$0.60	$0.63	$0.59

SOURCE: Audit analysis of CNG use data provided by Fleet Management.

As a result, each GGE used effectively costs the City almost 60 cents more than necessary; simply increasing use of CNG would reduce the cost of the program. If, for example, the City had increased the use of CNG just 10 percent between FY 00/01 and FY 01/02, the cost of the guarantee would have been reduced to $24,754 or 50 cents per GGE.

No Decrease in Use of Unleaded Gasoline

CNG burns cleaner than unleaded gasoline thus reducing the volume of VOC emissions. If each GGE of CNG used replaces a gallon of unleaded gasoline, there would be a direct relationship on the pounds of VOC emissions released into the air. We compiled historical data regarding CNG and unleaded gasoline usage for the vehicles reported as dual fuel capable. The information presented in the table below shows that there was a significant reduction in the use of unleaded fuel in FY 99/00 but since that time, use has remained relatively constant.

CNG and Gas Usage for Dual Fuel Vehicles
By Fiscal Year (excluding forklifts and buses)

PERIOD	CNG[16]	ULEADED	COMBINED	CNG TO TOTAL FUEL USAGE
FY 99/00	22,648	71,196	93,844	24.13%
FY 00/01	45,833	62,330	108,163	42.37%
FY 01/02	43,159	64,663	107,882	40.01%
FY 02/03[17]	44,597	66,329	110,926	40.20%

SOURCE: Audit analysis of CNG use data provided by Fleet Management.

[15] Projection based on first six months actual use. Actual FY 02/03 usage was obtained after the completion of fieldwork and indicated that 44,945 GGEs of CNG was actually used during this period.

[16] Calculated as GGE.

[17] Projection based on first six months actual use. Actual FY 02/03 usage was obtained after the completion of fieldwork and indicated that 44,945 GGEs of CNG was actually used during this period.

A Methodology, Resulting in Assignment of CNG Capable Vehicles to Areas With Greater Potential to Reduce Unleaded Gasoline Use, Is Needed

To obtain the most benefit from the investment made when acquiring CNG capable vehicles, they need to be assigned to positions that have the greatest potential for significant decreases in use of unleaded gasoline. As such, we would have expected to find an established methodology for assignment of vehicles and some indication of periodic review of use for reassignment. Instead, the current practice is to place dual fuel vehicles in service if one can be obtained equipped from the manufacturer.[18] There is no review undertaken to determine the potential for use prior to making the purchasing decision. As well, there is no attempt to determine if a refueling station is within reasonable proximity of the normal work assignment for the employee.

Moreover, vehicles assigned to the Police Department are not included in the pool of vehicles considered appropriate for conversion. According to Fleet Management, previous decisions were made to exclude these vehicles. We found no historical documentation to support the decision to not assign dual fuel vehicles to, at a minimum, certain administrative functions within the Police Department. The cities of Phoenix and Mesa include their police vehicles in their calculations and provide CNG capable vehicles for use.

Within the City of Scottsdale, we found dual fuel vehicles assigned in circumstances where there is little likelihood that the alternative fuel will actually be used. For example, in FY 01/02, 19 dual fuel vehicles were assigned to work areas such as Citizen and Neighborhood Resources, City Cable, Community Planning, Development Quality and Compliance, Environmental Planning, Traffic Signals, and Transportation. Employees assigned to these work areas are located at One Civic, making it unlikely that routine refueling would occur at the Via Linda Campus. In all, during the last fiscal year, the average CNG used for each of these vehicles was 29 GGEs.

We also found that vehicles are assigned without consideration of the propensity for an employee to actually use the alternative fuel. Interviews with various City staff indicated that, in some situations, low CNG use is the result of safety concerns. For example, the City incurred the expense to purchase dual fuel vehicles to be used by Meter Readers. In FY 01/02, these 11 vehicles used an average of 1,192 gallons of fuel. Of the 11, the highest percentage of CNG use was 38.75 percent; 7 vehicles used CNG for less than 3 percent of their fuel needs. We asked the Manager of the work group if there was an explanation for the limited use. He reported that employees expressed concern with the performance of the vehicles and frustration with the tank size.

[18] Previously, vehicles were also retrofitted after purchase if conversion kits were available. Fleet Management reported that this practice is no longer followed.

We also found situations in which vehicles were available but not assigned to employees whose job duties required a significant amount of driving. For example, Capital Project Management has routinely leased vehicles for use by Project Inspectors. We obtained mileage records for the leased vehicles between February 1999 and October 2001 and found, on average, 12,000 miles per year driven on these vehicles. These leased vehicles, however, were not included in the pool of vehicles considered appropriate for replacement with CNG capable units.

Without an effective methodology for the deployment of CNG capable vehicles, the City is likely to incur the additional expense to equip a vehicle but not achieve any benefit from the use of alternative fuel.

Performance Measures Need to Be Modified; Clear Expectations Need to Be Communicated to Employees

The City's approach to complying with clean air mandates has been to measure the percentage of vehicles that are equipped to use alternative fuels. This approach mirrors the goal established in the ARS (i.e., increase the percent of the fleet that operates on alternative fuel).

This performance measure is ineffective in gauging the actual progress made towards reducing the volume of unleaded gasoline by increasing the use of alternative fuels. For example, in FY 01/02, 16 vehicles reported in the percentage of vehicles converted, failed to use any CNG at all. Of the 144 dual fuel vehicles consuming at least 100 gallons of fuel during FY 01/02 (excluding forklifts), 49 used CNG for less than 10 percent of their total fuel needs. During this period, each of these 49 vehicles consumed an average of 779 gallons of unleaded fuel. In this same time period, only 1 vehicle used CNG 100 percent of the time. This vehicle consumed only 185 GGEs.

To justify the cost of providing a CNG capable vehicle, there should be a reasonable expectation that a vehicle will be operated with the alternative fuel. Simply making the vehicle available does not provide any assurance that the alternative fuel will actually be used. If a fueling station is not readily available or if the operator perceives that using CNG will hamper his ability to conduct his job, the vehicle will simply continue to be fueled with unleaded gasoline.

To have a successful program, the ultimate objective (i.e., a reduction in the use of unleaded gasoline) needs to be clearly articulated and communicated to employees. Each individual with the potential to help the organization reach this goal should be told what is expected of them and be provided the tools necessary to allow them to meet those expectations. This, however, has not been done. There is no established objective outlined that would

communicate the actual goal to employees. Nor has the City established any use requirements for the drivers assigned these dual fuel vehicles. We found no citywide guidance to suggest that CNG usage is to be considered during performance evaluations for employees assigned dual fuel vehicles. Moreover, we found no indication that efforts to support and encourage alternative fuel use are considered in evaluating the performance of general managers or other City Manager direct reports. While Fleet Management has the ability to prepare CNG use reports if requested, there is no established process that would provide information to Department Managers as a means of stressing the need to encourage employees to use the alternative fuel.

The performance measure established for the Fleet Management Division as a means of evaluating the steps undertaken to meet the stated goal (comply with state and federal mandates) is an ineffective measurement that encourages the expenditure of funds without consideration of the actual impact of the expenditure.

Methodology for Calculating Outcomes Needs to Be Established

Historically, the City has measured the outcome from the efforts to use alternative fuels as the percent of vehicles that are alternative fuel capable. Measurements such as the percent of vehicles operating on alternative fuels have been reported in financial documents as well as press releases. For example, an article in the January 8, 2002, edition of the Scottsdale Tribune indicated that 35 percent of Scottsdale City vehicles were equipped to run on CNG. To ensure that calculations of outcomes are consistent year-to-year (or period to period), we would expect to find a documented methodology used for the calculation. This was not the case.

We made inquiries to the City Environmental Office, the group responsible for completing the application submitted to the EPA, and found that the Office did not have a documented methodology for calculating the percentage of alternative fuel vehicles. The Senior Environmental Coordinator referred us to Fleet Management for the methodology used to calculate the percentage of alternative fuel vehicles in the City's fleet. A Fleet Systems Coordinator stated that the City uses the same methodology set out in the ARS to measure compliance at the state level.

As for determining compliance with the "First Fuel" program, the Senior Environmental Coordinator stated that he attempted to develop a calculation methodology because managers were asking what constituted compliance. He said he made calculations for January 2001 and 2002 using the following methodology:

> *Using fuel usage reports, he manually reviewed usage and judgmentally made a determination, based on usage, as to whether or not the vehicle was in compliance.*

Documentation of the percentages used to make the judgment was not generated. We were told that the threshold was 25, 20, or even 17 percent (i.e., if a vehicle used this percentage of CNG then it was considered compliant). However, he could not recall exactly which of these percentages he used as the threshold for determining "First Fuel" compliance.

The methodology explained by the Senior Environmental Coordinator underscores the need for an effective performance measurement. According to the description of the "First Fuel" program on the Fleet Management website, operators of CNG/gasoline vehicles are encouraged to do their part for a cleaner environment by using CNG as their first fuel each day. The methodology selected by the Environmental Coordinator does not measure how often CNG was used in comparison to the number of times an employee elected to fuel with gasoline.

Decisions to Replace CNG Capable Vehicles Need to Be Based on Potential for Use

Departments that are assigned City vehicles are charged monthly rental rates for the vehicles. This Fleet rental rate is comprised of an amount to be used to replace the vehicle and an amount that relates to the maintenance and repair of the vehicle over its useful life. The portion of the rental rate that relates to vehicle replacement is calculated based on the estimated cost to replace the vehicle and the established useful life assigned to the vehicle classification. When a CNG capable vehicle is obtained and placed into service, the additional cost incurred to obtain the specially equipped vehicle is spread within the entire vehicle classification instead of allocated to the rental rate charged for the actual vehicle. This practice avoids penalizing departments that are assigned CNG capable vehicles.

To ensure that expenditures are made only when necessary and only in situations in which there is some expectation of meeting a desired outcome, we would have expected to find a process in place to periodically review the potential for the expenditure related to CNG equipment, the funding available for replacement vehicles, and the potential to reduce the rental rate if it is unlikely that CNG capable vehicles will continue to be purchased.

The current practice, while providing a reserve of funds that can be used to continue pursuit of alternative fueled vehicles, also serves to obscure the cost of complying with environmental mandates. Instead of reporting the cost as part of the City Environmental Program and, thereby, providing a means for the Council to evaluate the expenditure as part of the annual budget, the expense is hidden within the Fleet rental rates.

SCOPE AND METHODOLOGY

This report is a component of an audit of the controls over the acquisition and use of light duty passenger vehicles and trucks. The scope of this report is limited to reviewing City practices in equipping its vehicles to address air quality control steps set out in the ARS. More specifically, this review focuses on the requirement that the City develop and implement a vehicle fleet plan that encourages and progressively increases the use of alternative fuels in City owned vehicles. Audit work was conducted in accordance with generally accepted government auditing standards as they relate to expanded scope auditing as required by Article III, Scottsdale Revised Code, §2-117, *et seq.*

During the survey phase of this audit, we identified the requirements imposed on the City relative to the above-mentioned scope. To do this, we reviewed the ARS' as well as made inquiries to the City's Senior Environmental Coordinator and Fleet Management personnel. To determine whether the City has established any program objectives, measures, or definitions related to CNG capable vehicles, we reviewed City Administrative Regulations and made inquiries to the City's Senior Environmental Coordinator.

To determine whether the City has an established methodology for calculating the percentage of City vehicles that are alternative fuel capable, we made inquiries to the Senior Environmental Coordinator and the Fleet Systems Coordinator. For comparative purposes, we interviewed the City of Mesa Fleet Director to determine whether their calculations included police vehicles as well as any other CNG related procedures they implement.

We interviewed the Municipal Services General Manager, the Fleet Management Director, the Community Services Director, and the Meter Reader Manager to obtain information on whether there were any factors that deter the use of CNG within the City. To obtain information regarding goals, measures, requirements, and incentives related to the use of alternative fuels within the City, we interviewed the City's Senior Environmental Coordinator and reviewed Fleet Management's website.

To determine the location and availability of CNG fueling sites, we interviewed the Fleet Management Director and members of his staff. To become familiar with the requirements related to the City's use of an outside vendor to provide CNG fuel, we obtained the contract and reviewed the provisions of that contract and asked follow up questions of Fleet personnel involved with the contract.

We spoke with the City of Mesa Fleet Director to obtain information on their experiences with CNG dedicated vehicles operated in their fleet. Information was gathered which provided insight into the fuel economy of these vehicles, relative to similar vehicles that operate on gasoline.

We also conducted the following tests during fieldwork:

Test 1

Objective: For dual fuel vehicles, determine the usage rate of CNG for the City overall.

Method: For all dual fuel vehicles, we obtained gasoline and CNG use data from Fleet Management for the six-month period of December 2000 to June 2001. We divided the total CNG used during the period for these vehicles by the total of all fuel used by these vehicles to arrive at the percentage of CNG used during the period for the dual fuel vehicles.

Criteria: No specific criteria applies to this work, the percentage was calculated for information purposes.

Results: Citywide, the percentage of CNG use for dual fuel vehicles compared to the total fuel used during the period reviewed was 43 percent; meaning that the percent of unleaded gasoline used by these vehicles during that period was 57 percent.

Test 2

Objective: To determine whether the City has documented a plan to meet the intent of ARS, §9-500.04.

Method: We made inquiries to the Municipal Services General Manager, the Transportation General Manager, the Fleet Management Director, and the Senior Environmental Coordinator as to whether they were aware of a documented City plan for meeting the intent of the applicable ARS.

Criteria: ARS, §9-500.04, requires the City to develop and implement a vehicle fleet plan that encourages and progressively increases the use of alternative fuels in City owned vehicles.

Results: No documented plan was identified.

Test 3

Objective: Determine whether the City is in compliance with ARS requirements for a certain percentage of the total fleet to be alternative fuel capable. If not, determine whether the City has obtained a waiver to the requirement.

Method: We made inquiries to the Senior Environmental Coordinator and to a Fleet Systems Coordinator as to the calculation methodology for determining the percentage of CNG capable

vehicles. We also asked them for the percentage of City vehicles that were CNG capable. We also requested that a member of the City Clerk's staff search their records for any Council actions or resolutions that addressed CNG, air quality, alternative fuel, or ARS, §9-500.04. We then reviewed the results to determine if any were related to a request for a waiver to the requirements. We also made inquiries to the Municipal Services General Manager, the Transportation General Manager, the Fleet Management Director, and the Senior Environmental Coordinator as to whether they were aware of any waiver the City obtained to the requirements.

Criteria: ARS, §9-500.04, requires that the City have at least 75 percent of the total fleet be alternative fuel capable by December 31, 2000, and each year thereafter. This requirement and timetable for alternative fuel vehicles may be waived on receipt of evidence, acceptable to the City Council, that the City was unable to acquire equipment or refueling stations necessary to operate vehicles at a projected cost that is reasonably expected to result in net cost of no greater than 10 percent of the cost associated with conventional fuel. Applications for waivers should be filed with the Department of Commerce Energy Office.

Results: We were told that 35 percent of the eligible City fleet was dual fuel capable, which did not meet the 75 percent requirement. We found no indication that the City applied for a waiver to the requirement.

Test 4

Objective: Verify the reliability of worksheets on the City's CNG usage as provided by Fleet Management personnel (one set of worksheets tracks transactions related to the Trillium contract while another set tracks CNG use by vehicle).

Method: For FYs 99/00, 00/01, 01/02, and 02/03 year to date (December 31, 2002), we obtained, from Fleet Management personnel, Excel worksheets used to track transactions related to the Trillium contract as well as another set of Excel worksheets used to track fuel use for dual fuel vehicles. We scheduled the monthly CNG used by the City per the worksheet that tracked transactions related to the Trillium contract. For those same fiscal years, we then scheduled the monthly CNG used by the City from the Trillium CNG site per the worksheets that track fuel use by vehicle. We identified differences between the two sources for each month reviewed. Fleet Management staff

members were interviewed to obtain additional insight into the reports and explanations of issues identified in the review.

Criteria: In order to be considered a reliable source of CNG use information, the monthly use amounts according to the worksheets that track transactions related to the Trillium contract should match the monthly CNG acquired from the Trillium station according to the spreadsheets that track fuel use by vehicle.

Results: There were significant differences between the worksheets in what was recorded for CNG use for the months of July, August, and September 1999. The difference for July was 1,518 gallons, for August it was 494 gallons, and for September it was 99 gallons. We determined that these differences were due to the lack of information, at that time, on the amount of CNG used for specific vehicles, if the CNG was obtained from Trillium. After that point, the amounts matched each other with the exception of what could be explained as rounding.

Test 5

Objective: Determine the extent to which the City utilizes its contract with the vendor that makes CNG available at the City's north fueling station.

Method: We obtained Trillium contract invoice information for FYs 99/00, 00/01, 01/02, and 02/03 year to date (up to December 31, 2002). For each period, we reviewed the information to determine the total CNG gallons actually used during that fiscal year. For FY 02/03, using the six-month information we had available, we projected the total CNG use for the fiscal year by multiplying the amount used to that point by two. For each fiscal year, we then multiplied the amount by which actual CNG use fell short of the 100,000 gallon minimum, by the per gallon service fee component of the contract price, in effect for the respective period, to arrive at the service fee paid on gallons not actually used.

Criteria: The City's contract with Trillium requires that the City pay the vendor the per gallon service component for at least 100,000 gallons of CNG.

Results: During FY 99/00, the City used 22,776 gallons of CNG. This was a shortfall of 77,224 gallons from the contract's minimum requirement. The service component cost related to this shortfall was $36,450 ($0.472 per gallon service fee in effect at this time, multiplied by the shortfall). Dividing the $36,450 shortfall costs

into the 22,776 gallons actually consumed results in an additional $1.60 per gallon beyond the price directly associated with each gallon of CNG consumed.

During FY 00/01, the City used 44,890 gallons of CNG obtained under the Trillium contract. This was a shortfall of 55,110 gallons from the contract's minimum requirement. The service component cost related to this shortfall was of $26,894 ($0.488 per gallon service fee in effect at this time, multiplied by the shortfall). Dividing the $26,894 shortfall costs into the 44,890 gallons actually consumed results in an additional $0.60 per gallon beyond the price directly associated with each gallon of CNG consumed.

During FY 01/02, the City used 43,670 gallons of CNG obtained under the Trillium contract. This was a shortfall of 56,330 gallons from the contract's minimum requirement. The service component cost related to this shortfall was of $27,545 ($0.489 per gallon service fee in effect at this time, multiplied by the shortfall). Dividing the $27,545 shortfall costs into the 43,670 gallons actually consumed results in an additional $0.63 per gallon beyond the price directly associated with each gallon of CNG consumed.

During the first six months of FY 02/03, the City used 22,765 gallons of CNG obtained under the Trillium contract. Multiplying this amount by 2, we project that the City will use 45,530 gallons of CNG for the entire fiscal year. This will result in a shortfall of 54,470 gallons from the contract's minimum requirement. The service component cost related to this projected shortfall will be $27,017 ($0.496 per gallon service fee in effect at this time, multiplied by the projected shortfall). Dividing the $27,017 shortfall costs into the 45,530 gallons projected to be consumed results in an additional $0.59 per gallon beyond the price directly associated with each gallon of CNG consumed.

Test 6

Objective: For each dual fuel vehicle that consumed at least 100 gallons of fuel, determine the percentage of CNG used relative to the total fuel used for that vehicle for FYs 99/00, 00/01, 01/02, and 02/03 year to date (up to December 31, 2002).

Method: For FYs 99/00, 00/01, 01/02, and 02/03 year to date (up to December 31, 2002), we obtained worksheets, which contained fuel use data by month by dual fuel vehicle, from Fleet Management. Using these worksheets, we summarized the fuel

use information for each vehicle, by fiscal year. We then sorted the information by each vehicle's total fuel use for the period and identified those dual fuel vehicles that used 100 gallons or more of CNG during the fiscal year. We then eliminated forklifts and buses and divided the total CNG gallons used for each vehicle by the total fuel used to arrive at the percentage of CNG used for the vehicle's fuel needs. We then sorted the worksheets in ascending order based on the percentage each vehicle used CNG. We summarized the CNG percentage use information by number of vehicles that used 0 to 9.99 percent, 10 percent to 24.99 percent, 25 percent to 49.99 percent, 50 percent to 74.99 percent, and 75 percent to 100 percent. We then developed a table to present this information.

Criteria: No specific criteria applied to this work, the percentage was calculated for information purposes.

Results: During FY 99/00, a total of 121 dual fuel vehicles used at least 100 gallons of total fuel. Of these vehicles, 9 used CNG for 75 to 100 percent of their fuel needs, 16 used CNG for 50 to 74.99 percent of their fuel needs, 23 used CNG for 25 to 49.99 percent of their fuel needs, 23 used CNG for 10 to 24.99 percent of their fuel needs, and 50 used CNG for 0 to 9.99 percent of their fuel needs.

During FY 00/01, a total of 144 dual fuel vehicles used at least 100 gallons of total fuel. Of these vehicles, 32 used CNG for 75 to 100 percent of their fuel needs, 29 used CNG for 50 to 74.99 percent of their fuel needs, 27 used CNG for 25 to 49.99 percent of their fuel needs, 22 used CNG for 10 to 24.99 percent of their fuel needs, and 34 used CNG for 0 to 9.99 percent of their fuel needs.

During FY 01/02, a total of 144 dual fuel vehicles used at least 100 gallons of total fuel. Of these vehicles, 35 used CNG for 75 to 100 percent of their fuel needs, 23 used CNG for 50 to 74.99 percent of their fuel needs, 25 used CNG for 25 to 49.99 percent of their fuel needs, 12 used CNG for 10 to 24.99 percent of their fuel needs, and 49 used CNG for 0 to 9.99 percent of their fuel needs.

During FY 02/03 (up to December 31, 2002), a total of 133 dual fuel vehicles used at least 100 gallons of total fuel. Of these vehicles, 34 used CNG for 75 to 100 percent of their fuel needs, 23 used CNG for 50 to 74.99 percent of their fuel needs, 13 used CNG for 25 to 49.99 percent of their fuel needs, 14 used CNG for 10 to 24.99 percent of their fuel needs, and 49 used CNG for 0 to 9.99 percent of their fuel needs.

APPENDIX A
DUAL FUEL VEHICLE FUEL USAGE FOR FY 2001/02
SORTED BY TOTAL GALLONS OF FUEL USED

VEHICLE COUNT	DEPARTMENT OR DIVISION VEHICLE IS ASSIGNED TO	VEHICLE NUMBER	TOTAL UNL GAL	TOTAL CNG GAL	TOTAL All FUELS	PERCENT CNG USE
1	Water Dist	7214	2,536.9	178.2	2,715.1	6.56%
2	Water Dist parked at far north Well Site	7296	2,564.9	15.0	2,579.9	0.58%
3	Water Production	7423	1,954.3	13.0	1,967.3	0.66%
4	Shoulders & Drainage	3426	1,621.4	3.2	1,624.6	0.20%
5	Meter Reading	9031	991.8	520.8	1,512.6	34.43%
6	Traffic Signals	7274	1,367.4	144.8	1,512.2	9.58%
7	Planning Inspections	9422	568.6	824.0	1,392.6	59.17%
8	Capital Project Management	5102	145.3	1,238.6	1,383.9	89.50%
9	Meter Reading	9028	1,294.9	81.0	1,375.9	5.89%
10	Meter Reading	9034	1,361.4	11.3	1,372.7	0.82%
11	Meter Reading	9027	823.2	520.8	1,344.0	38.75%
12	Capital Project Management	5110	251.3	1,015.1	1,266.4	80.16%
13	Traffic Signals	3837	1,245.0	0	1,245.0	0.00%
14	Shoulders & Drainage	9024	731.5	501.9	1,233.4	40.69%
15	Meter Reading	9026	849.1	367.2	1,216.3	30.19%
16	Field Engineering	9421	474.4	722.8	1,197.2	60.37%
17	Parks, Rec. & Fac.	4330	667.5	527.7	1,195.2	44.15%
18	Parks, Rec. & Fac.	4328	79.9	1,115.1	1,195.0	93.31%
19	Planning Inspections	9311	876.4	316.3	1,192.7	26.52%
20	Meter Reading	8253	1,152.8	34.4	1,187.2	2.90%
21	Meter Reading	9029	1,170.3	0	1,170.3	0.00%
22	Transportation	6220	1,152.1	0	1,152.1	0.00%
23	Meter Reading	9032	1,144.1	0	1,144.1	0.00%
24	Water Production	7271	759.7	377.2	1,136.9	33.18%
25	Meter Reading	9021	1,127.3	6.3	1,133.6	0.56%
26	Library	9412	632.7	500.1	1,132.8	44.15%
27	Building Inspections	5114	88.4	1,043.5	1,131.9	92.19%
28	Parks, Rec. & Fac.	4334	83.7	1,047.0	1,130.7	92.60%
29	Building Inspections	5112	155.9	949.4	1,105.3	85.90%
30	Water Production	7272	297.3	806.3	1,103.6	73.06%
31	Field Engineering	9425	294.7	788.5	1,083.2	72.79%
32	Capital Project Management	5107	139.5	922.5	1,062.0	86.86%
33	Planning Inspections	5125	136.1	914.6	1,050.7	87.05%
34	Parks, Rec. & Fac.	3872	983.9	62.5	1,046.4	5.97%
35	Building Inspections	9309	484.5	554.0	1,038.5	53.35%
36	Parks, Rec. & Fac.	4331	66.5	958.4	1,024.9	93.51%
37	Building Inspections	9310	264.6	755.2	1,019.8	74.05%
38	Shoulders & Drainage	3428	645.9	365.7	1,011.6	36.15%
39	Water Production	7425	962.0	9.1	971.1	0.94%
40	Building Inspections	5122	122.0	838.2	960.2	87.29%
41	Water Dist	7213	947.0	7.5	954.5	0.79%
42	Parks, Rec. & Fac.	4329	634.9	317.9	952.8	33.36%
43	Capital Project Management	5103	64.5	882.4	946.9	93.19%
44	Planning Inspections	5119	53.2	889.5	942.7	94.36%
45	Pumpback System	7273	635.5	282.2	917.7	30.75%
46	Capital Project Management	5101	168.5	742.9	911.4	81.51%

VEHICLE COUNT	DEPARTMENT OR DIVISION VEHICLE IS ASSIGNED TO	VEHICLE NUMBER	TOTAL UNL GAL	TOTAL CNG GAL	TOTAL All FUELS	PERCENT CNG USE
47	Meter Reading	9030	901.3	9.7	911.0	1.06%
48	Water Quality	7260	905.7	2.5	908.2	0.28%
49	Parks, Rec. & Fac.	4322	845.7	62.5	908.2	6.88%
50	Capital Project Management	5105	78.6	826.2	904.8	91.31%
51	Parks, Rec. & Fac.	4333	8.8	880.2	889.0	99.01%
52	Building Inspections	5123	534.8	345.6	880.4	39.25%
53	Parks, Rec. & Fac.	4336	849.5	21.7	871.2	2.49%
54	Land Survey	9301	85.8	778.0	863.8	90.07%
55	Water Production	7268	403.1	456.7	859.8	53.12%
56	CAP Treatment Plan	7269	454.7	383.0	837.7	45.72%
57	Recycling	2222	406.3	426.9	833.2	51.24%
58	Residential Collection	2227	281.1	549.5	830.6	66.16%
59	Recycling cng removed 6/19/02	2223	381.0	440.7	821.7	53.63%
60	Field Engineering	9291	549.9	261.5	811.4	32.23%
61	Parks, Rec. & Fac.	4339	676.1	130.9	807.0	16.22%
62	Parks, Rec. & Fac.	4338	358.0	443.8	801.8	55.35%
63	Parks, Rec. & Fac.	4321	601.1	186.1	787.2	23.64%
64	Building Inspections	5118	125.0	661.1	786.1	84.10%
65	Parks, Rec. & Fac.	9224	576.6	207.1	783.7	26.43%
66	Parks, Rec. & Fac.	4291	705.5	57.1	762.6	7.49%
67	Land Survey	9302	44.5	707.3	751.8	94.08%
68	Field Engineering	9426	274.1	472.2	746.3	63.27%
69	Meter Reading	9033	665.3	75.6	740.9	10.20%
70	Shoulders & Drainage	3424	705.7	27.3	733.0	3.72%
71	Pool Vehicles (Fleet)	2201	682.7	43.2	725.9	5.95%
72	Building Inspections	5120	63.4	661.6	725.0	91.26%
73	Parks, Rec. & Fac.	4337	710.9	0	710.9	0.00%
74	Parks, Rec. & Fac.	4323	703.6	6.5	710.1	0.92%
75	Building Inspections	9308	150.4	545.6	696.0	78.39%
76	Parks, Rec. & Fac.	4319	544.6	148.2	692.8	21.39%
77	Capital Project Management	5104	234.6	433.6	668.2	64.89%
78	Pool Vehicles (Fleet)	9046	643.8	7.7	651.5	1.18%
79	Capital Project Management	5106	52.8	596.0	648.8	91.86%
80	Parks, Rec. & Fac.	8240	624.0	23.2	647.2	3.58%
81	Capital Project Management	9073	39.1	595.5	634.6	93.84%
82	Water Site 80	7295	626.0	2.5	628.5	0.40%
83	Building Inspections	9307	48.8	571.4	620.2	92.13%
84	Street Cleaning	3424	190.7	422.4	613.1	68.90%
85	Parks, Rec. & Fac.	4332	497.2	114.1	611.3	18.67%
86	Transportation	9465	578.9	23.1	602.0	3.84%
87	Parks, Rec. & Fac.	8239	568.6	28.1	596.7	4.71%
88	Building Inspections	5116	190.5	403.4	593.9	67.92%
89	Capital Project Management	5108	273.5	316.7	590.2	53.66%
90	Land Survey	9304	96.1	485.2	581.3	83.47%
91	Building Inspections	5121	152.2	427.8	580.0	73.76%
92	Planning Inspections	5124	67.5	505.8	573.3	88.23%
93	Building Inspections	5117	93.1	478.5	571.6	83.71%
94	Shoulders & Drainage	3427	357.4	213.8	571.2	37.43%
95	Parks, Rec. & Fac.	4335	538.1	15.2	553.3	2.75%
96	Citizen & Neighborhood Resources	9069	406.4	138.3	544.7	25.39%
97	Water Dist parked at far north Well Site	7297	322.8	206.8	529.6	39.05%

VEHICLE COUNT	DEPARTMENT OR DIVISION VEHICLE IS ASSIGNED TO	VEHICLE NUMBER	TOTAL UNL GAL	TOTAL CNG GAL	TOTAL All FUELS	PERCENT CNG USE
98	Transportation	9466	487.1	40.1	527.2	7.61%
99	Building Inspections	5113	63.9	446.3	510.2	87.48%
100	Field Engineering	9305	30.4	467.3	497.7	93.89%
101	Water Campus Wastewater Reclamation	7270	270.6	190.2	460.8	41.28%
102	Field Engineering	9292	215.7	239.9	455.6	52.66%
103	Capital Project Management	5109	238.6	211.4	450.0	46.98%
104	Parks, Rec. & Fac.	8242	208.0	219.3	427.3	51.32%
105	Parks, Rec. & Fac.	4705	396.6	21.3	417.9	5.10%
106	Parks, Rec. & Fac.	4327	396.2	21.1	417.3	5.06%
107	Brush Removal	2225	357.6	37.5	395.1	9.49%
108	Dev. Quality/Compliance	9427	358.9	31.6	390.5	8.09%
109	Land Survey	9303	88.5	282.9	371.4	76.17%
110	Water Laboratory	7220	343.8	25.0	368.8	6.78%
111	Environmental Planning	9330	216.7	110.8	327.5	33.83%
112	Parks, Rec. & Fac.	4340	252.5	72.7	325.2	22.36%
113	Capital Project Management	9075	42.5	280.0	322.5	86.82%
114	Community Planning	9417	318.3	0	318.3	0.00%
115	Parks, Rec. & Fac.	8252	310.3	7.4	317.7	2.33%
116	Field Engineering	5111	34.8	273.5	308.3	88.71%
117	Parks, Rec. & Fac.	4704	108.4	182.9	291.3	62.79%
118	Parks, Rec. & Fac.	8243	254.4	32.0	286.4	11.17%
119	Shoulders & Drainage	9025	166.5	115.1	281.6	40.87%
120	Citizen & Neighborhood Resources	9062	271.5	3.5	275.0	1.27%
121	Parks, Rec. & Fac.	8255	273.8	0	273.8	0.00%
122	Citizen & Neighborhood Resources	9071	260.1	2.2	262.3	0.84%
123	Citizen & Neighborhood Resources	9417	245.8	10.6	256.4	4.13%
124	Capital Project Management	9078	32.7	208.4	241.1	86.44%
125	Planning Inspections	9431	39.6	201.3	240.9	83.56%
126	Capital Project Management	9079	91.7	145.7	237.4	61.37%
127	Water Quality	7220	194.6	37.2	231.8	16.05%
128	Gainey Wastewater Treatment Plant	4710	196.3	34.6	230.9	14.98%
129	Fleet Management Forklift	9612	0	228.7	228.7	100.00%
130	Residential Collection	2226	181.4	46.1	227.5	20.26%
131	Parks, Rec. & Fac.	8241	114.7	111.3	226.0	49.25%
132	Information Systems	4225	187.2	30.0	217.2	13.81%
133	Pool Vehicles (Fleet)	8221	196.7	0	196.7	0.00%
134	Capital Project Management	9074	67.8	126.3	194.1	65.07%
135	Parks, Rec. & Fac.	8254	167.5	22.7	190.2	11.93%
136	Gainey Wastewater Treatment Plant	7219	185.0	5.1	190.1	2.68%
137	Container Repair Forklift	9613	0	187.7	187.7	100.00%
138	Field Engineering	9306	0	184.6	184.6	100.00%
139	Capital Project Management	9080	117.8	62.4	180.2	34.63%
140	Citizen & Neighborhood Resources	9070	178.0	1.3	179.3	0.73%
141	Citizen & Neighborhood Resources	9064	176.8	0	176.8	0.00%
142	Building Inspections	5115	14.8	152.5	167.3	91.15%
143	Capital Project Management	9077	51.2	109.9	161.1	68.22%
144	Citizen & Neighborhood Resources	9072	123.4	3.7	127.1	2.91%
145	Citizen & Neighborhood Resources	9063	108.2	0	108.2	0.00%
146	Capital Project Management	9076	73.1	29.8	102.9	28.96%
147	Warehouse Forklift	9615	0	88.3	88.3	100.00%
148	Citizen & Neighborhood Resources	9068	84.4	0	84.4	0.00%

VEHICLE COUNT	DEPARTMENT OR DIVISION VEHICLE IS ASSIGNED TO	VEHICLE NUMBER	TOTAL UNL GAL	TOTAL CNG GAL	TOTAL All FUELS	PERCENT CNG USE
149	Fleet Management	9470	17.4	64.5	81.9	78.75%
150	Residential Collection	2217	76.3	0	76.3	0.00%
151	Capital Project Management	9049	70.8	5.0	75.8	6.60%
152	Fleet Management Forklift	9611	0	67.4	67.4	100.00%
153	Warehouse Forklift	9610	0	64.4	64.4	100.00%
154	Warehouse Forklift	9614	0	57.1	57.1	100.00%
155	Warehouse Forklift	6212	0	49.8	49.8	100.00%
156	Parks, Rec. & Fac.	4348	30.2	0	30.2	0.00%
157	Building Inspections	9280	24.1	0	24.1	0.00%
158	City Cable	4253	0.8	13.8	14.6	94.52%
159	Parks, Rec. & Fac.	4346	0	6.3	6.3	100.00%
160	Pool Vehicles (City Hall)	9470	0	3.4	3.4	100.00%
161	Parks, Rec. & Fac.	4288	0	0	0	0.00%
162	Fleet Management	6610	0	0	0	0.00%
	GRAND TOTAL		**64,662.7**	**43,673.4**	**108,336.1**	**40.31%**

SOURCE: Audit analysis of CNG use reports provided by Fleet Management.

APPENDIX B
DUAL FUEL VEHICLE FUEL USAGE
FROM JUNE 1, 2002, TO DECEMBER 31, 2002,
SORTED BY TOTAL GALLONS OF FUEL USED

VEHICLE COUNT	DEPARTMENT OR DIVISION VEHICLE IS ASSIGNED TO	VEHICLE NUMBER	TOTAL UNL GAL	TOTAL CNG GAL	TOTAL All FUELS	PERCENT CNG USE
1	Water Dist *parked at far north Well Site*	7296	1,294.6	0	1,294.6	0.00%
2	Capital Project Management	9073	219.7	982.7	1,202.4	81.73%
3	Capital Project Management	9078	259.6	769.7	1,029.3	74.78%
4	Traffic Signals	3837	910.1	0	910.1	0.00%
5	Water Production	7423	883.0	0	883.0	0.00%
6	Capital Project Management	5107	120.8	759.7	880.5	86.28%
7	Shoulders & Drainage	3426	817.5	44.6	862.1	5.17%
8	Water Dist	7214	832.3	0.9	833.2	0.11%
9	Meter Reading	9034	812.4	0	812.4	0.00%
10	Meter Reading	9031	748.5	49.3	797.8	6.18%
11	Capital Project Management	5102	122.1	622.5	744.6	83.60%
12	Planning Inspections	9422	224.1	512.8	736.9	69.59%
13	Field Engineering	9429	77.0	612.8	689.8	88.84%
14	Parks, Rec. & Fac.	4330	466.2	201.5	667.7	30.18%
15	Building Inspections	5112	104.7	545.9	650.6	83.91%
16	Shoulders & Drainage	3428	622.2	25.2	647.4	3.89%
17	Building Inspections	5114	74.8	570.5	645.3	88.41%
18	Meter Reading	9032	634.0	0	634.0	0.00%
19	Traffic Signals	7274	540.2	90.9	631.1	14.40%
20	Parks, Rec. & Fac.	4334	245.1	383.7	628.8	61.02%
21	Capital Project Management	5105	73.2	555.6	628.8	88.36%
22	Field Engineering	9421	165.8	453.1	618.9	73.21%
23	Transportation	6220	609.7	4.0	613.7	0.65%
24	Meter Reading	9029	582.8	0	582.8	0.00%
25	Meter Reading	9033	538.4	25.4	563.8	4.51%
26	Water Production	7272	161.8	394.0	555.8	70.89%
27	Parks, Rec. & Fac.	4347	80.0	471.7	551.7	85.50%
28	Capital Project Management	9075	119.8	421.6	541.4	77.87%
29	Water Dist *parked at far north Well Site*	7297	441.9	91.8	533.7	17.20%
30	Street Cleaning	3430	185.5	346.1	531.6	65.11%
31	Meter Reading	9026	526.0	0	526.0	0.00%
32	Capital Project Management	5101	96.8	428.9	525.7	81.59%
33	Building Inspections	9310	108.3	415.0	523.3	79.30%
34	Library Special Projects	9412	501.3	18.1	519.4	3.48%
35	Building Inspections	5122	110.1	403.5	513.6	78.56%
36	Building Inspections	9309	189.1	319.9	509.0	62.85%
37	Parks, Rec. & Fac.	4328	59.8	447.1	506.9	88.20%
38	Capital Project Management	5110	245.7	260.3	506.0	51.44%
39	CAP Treatment Plan	7269	343.4	148.8	492.2	30.23%
40	Field Engineering	9425	91.2	396.9	488.1	81.32%
41	Land Survey	9301	49.0	436.2	485.2	89.90%
42	Meter Reading	9030	478.5	2.5	481.0	0.52%
43	Planning Inspections	5125	86.9	385.5	472.4	81.60%
44	Citizen & Neighborhood Resources	9069	423.8	45.5	469.3	9.70%
45	Parks, Rec. & Fac.	9224	368.3	98.3	466.6	21.07%

VEHICLE COUNT	DEPARTMENT OR DIVISION VEHICLE IS ASSIGNED TO	VEHICLE NUMBER	TOTAL UNL GAL	TOTAL CNG GAL	TOTAL All FUELS	PERCENT CNG USE
46	Capital Project Management	5109	54.0	406.1	460.1	88.26%
47	Capital Project Management	9079	329.2	130.6	459.8	28.40%
48	Residential Collection	2227	146.6	309.3	455.9	67.84%
49	Water Production	7271	326.5	128.1	454.6	28.18%
50	Meter Reading	9028	449.7	0	449.7	0.00%
51	Parks, Rec. & Fac.	4321	391.8	57.3	449.1	12.76%
52	Parks, Rec. & Fac.	4329	347.6	99.0	446.6	22.17%
53	Parks, Rec. & Fac.	4331	147.9	297.1	445.0	66.76%
54	Planning Inspections	9431	225.8	213.1	438.9	48.55%
55	Water Production	7425	432.4	3.5	435.9	0.80%
56	Building Inspections	5123	70.9	363.8	434.7	83.69%
57	Capital Project Management	9077	103.1	296.3	399.4	74.19%
58	Parks, Rec. & Fac.	4323	396.1	0	396.1	0.00%
59	Transportation	9465	389.5	3.4	392.9	0.87%
60	Building Inspections	9308	55.0	332.5	387.5	85.81%
61	Parks, Rec. & Fac.	4339	317.6	65.3	382.9	17.05%
62	Parks, Rec. & Fac.	4322	372.5	9.0	381.5	2.36%
63	Parks, Rec. & Fac.	4336	371.2	8.9	380.1	2.34%
64	Citizen & Neighborhood Resources	9072	324.9	53.6	378.5	14.16%
65	Water Production	7268	200.7	170.9	371.6	45.99%
66	Parks, Rec. & Fac.	4335	337.5	26.8	364.3	7.36%
67	Pumpback System	7273	333.5	29.5	363.0	8.13%
68	Capital Project Management	9074	140.5	222.5	363.0	61.29%
69	Parks, Rec. & Fac.	4319	359.5	0	359.5	0.00%
70	Citizen & Neighborhood Resources	9070	357.3	0	357.3	0.00%
71	Land Survey	9302	17.1	334.8	351.9	95.14%
72	Building Inspections	5118	100.8	250.9	351.7	71.34%
73	Capital Project Management	9076	36.0	307.9	343.9	89.53%
74	Field Engineering	9426	110.9	231.7	342.6	67.63%
75	Parks, Rec. & Fac.	4338	200.0	136.5	336.5	40.56%
76	Parks, Rec. & Fac.	3872	307.3	25.7	333.0	7.72%
77	Land Survey	9303	157.8	172.7	330.5	52.25%
78	Capital Project Management	9080	89.3	241.1	330.4	72.97%
79	Meter Reading	9027	326.4	0	326.4	0.00%
80	Parks, Rec. & Fac.	4333	93.6	232.3	325.9	71.28%
81	Field Engineering	9430	77.4	248.1	325.5	76.22%
82	Water Site 81	7295	320.6	0	320.6	0.00%
83	Transportation	9466	310.0	4.0	314.0	1.27%
84	Parks, Rec. & Fac.	8239	312.0	0	312.0	0.00%
85	Planning Inspections	5119	61.3	250.5	311.8	80.34%
86	Parks, Rec. & Fac.	8240	297.1	4.9	302.0	1.62%
87	Water Quality	7220	249.4	49.9	299.3	16.67%
88	Citizen & Neighborhood Resources	9071	299.2	0	299.2	0.00%
89	Planning Inspections	5124	56.7	239.6	296.3	80.86%
90	Parks, Rec. & Fac.	4337	291.5	2.4	293.9	0.82%
91	Shoulders & Drainage	3427	259.5	33.4	292.9	11.40%
92	Building Inspections	5120	58.0	232.3	290.3	80.02%
93	Building Inspections	5121	51.4	235.7	287.1	82.10%
94	Planning Inspections	9311	286.4	0.4	286.8	0.14%
95	Water Site 81	7275	144.6	141.5	286.1	49.46%
96	Parks, Rec. & Fac.	4348	159.2	120.8	280.0	43.14%

VEHICLE COUNT	DEPARTMENT OR DIVISION VEHICLE IS ASSIGNED TO	VEHICLE NUMBER	TOTAL UNL GAL	TOTAL CNG GAL	TOTAL All FUELS	PERCENT CNG USE
97	Pool Vehicles (Fleet)	7260	269.4	8.9	278.3	3.20%
98	Shoulders & Drainage	9024	155.9	115.9	271.8	42.64%
99	Capital Project Management	5108	108.3	160.4	268.7	59.69%
100	Building Inspections	9307	20.1	247.5	267.6	92.49%
101	Parks, Rec. & Fac.	4705	258.5	4.2	262.7	1.60%
102	Building Inspections	5113	20.8	240.2	261.0	92.03%
103	Pool Vehicles (Fleet)	2201	255.8	0.1	255.9	0.04%
104	Recycling	2222	70.2	185.3	255.5	72.52%
105	Capital Project Management	5104	201.2	52.9	254.1	20.82%
106	Capital Project Management	5106	14.7	239.4	254.1	94.21%
107	Parks, Rec. & Fac.	4332	190.7	53.6	244.3	21.94%
108	Parks, Rec. & Fac.	4349	174.6	59.4	234.0	25.38%
109	Parks, Rec. & Fac.	4291	229.0	0	229.0	0.00%
110	Parks, Rec. & Fac.	4327	228.7	0	228.7	0.00%
111	Pool Vehicles (Fleet)	9046	208.7	11.6	220.3	5.27%
112	Building Inspections	5117	45.1	172.8	217.9	79.30%
113	Water Campus Wastewater Reclamation	7270	164.8	52.7	217.5	24.23%
114	Parks, Rec. & Fac.	8242	155.4	51.0	206.4	24.71%
115	Meter Reading	8253	200.6	4.2	204.8	2.05%
116	Field Engineering	9305	20.0	181.6	201.6	90.08%
117	Dev. Quality/Compliance	9427	183.1	8.0	191.1	4.19%
118	Brush Removal	2225	125.8	64.1	189.9	33.75%
119	Parks, Rec. & Fac.	4346	80.0	109.6	189.6	57.81%
120	Water Conservation	4710	155.5	18.5	174.0	10.63%
121	Field Engineering	5111	26.0	124.4	150.4	82.71%
122	Parks, Rec. & Fac.	4340	135.8	7.7	143.5	5.37%
123	Land Survey	9304	38.6	93.9	132.5	70.87%
124	Shoulders & Drainage	9025	44.5	85.7	130.2	65.82%
125	Parks, Rec. & Fac.	8241	18.3	111.4	129.7	85.89%
126	Parks, Rec. & Fac.	8243	129.6	0	129.6	0.00%
127	Parks, Rec. & Fac.	8252	119.0	4.3	123.3	3.49%
128	Gainey Wastewater Treatment Plant	7219	118.4	2.2	120.6	1.82%
129	Field Engineering	9306	12.0	103.7	115.7	89.63%
130	Residential Collection	2226	65.0	49.0	114.0	42.98%
131	Parks, Rec. & Fac.	8255	110.3	1.6	111.9	1.43%
132	Street Cleaning	3424	42.5	64.6	107.1	60.32%
133	Warehouse Forklift	9615	0	102.9	102.9	100.00%
134	Information Systems	4225	102.4	0	102.4	0.00%
135	Fleet Management Forklift	9612	0	95.8	95.8	100.00%
136	Environmental Planning	9330	60.5	29.2	89.7	32.55%
137	Building Inspections	5116	23.1	59.4	82.5	72.00%
138	Container Repair Forklift	9613	0	80.8	80.8	100.00%
139	Building Inspections	5115	0	80.0	80.0	100.00%
140	Parks, Rec. & Fac.	4704	22.4	55.1	77.5	71.10%
141	Parks, Rec. & Fac.	8254	66.0	0.4	66.4	0.60%
142	Warehouse Forklift	9614	0	65.7	65.7	100.00%
143	Capital Project Management	5103	50.6	14.6	65.2	22.39%
144	Citizen & Neighborhood Resources	9417	63.7	0	63.7	0.00%
145	Citizen & Neighborhood Resources	9062	63.4	0	63.4	0.00%
146	Fleet Management Forklift	9611	0	20.5	20.5	100.00%
147	City Cable	4253	14.8	0	14.8	0.00%

VEHICLE COUNT	DEPARTMENT OR DIVISION VEHICLE IS ASSIGNED TO	VEHICLE NUMBER	TOTAL UNL GAL	TOTAL CNG GAL	TOTAL All FUELS	PERCENT CNG USE
148	Pool Vehicles (City Hall)	9470	0	6.3	6.3	100.00%
149	Meter Reading	9021	0	0	0	0.00%
150	Citizen & Neighborhood Resources	9068	0	0	0	0.00%
	GRAND TOTAL		**33,164.6**	**22,767.3**	**55,931.9**	**40.71%**

SOURCE: Audit analysis of CNG use reports provided by Fleet Management.

APPENDIX C
MANAGEMENT RESPONSE[19]

Date: June 27, 2003

To: Cheryl Barcala, City Auditor

From: Roger Klingler, Assistant City Manager

Re: Management Response to Draft Audit Report No. 0161B

I am providing the following responses to your recommendations contained in your May 30th transmittal of the draft audit report on Clean Air Mandates and the Impact on Light Duty Trucks and Passenger Vehicles in the City Fleet.

(A) Designate Responsibility for addressing City-owned vehicle clean air mandates

Agree – The City Manager has designated the Environmental Management Systems (EMS) Task Force led by Ed Gawf, Deputy City Manager, and coordinated by Larry Person, Sr. Environmental Coordinator, as the group responsible for evaluating the City's current approach to addressing compliance with clean air mandates as they relate to City-owned vehicles. This group is charged with conducting the evaluation and developing appropriate improvement recommendations for the City Manager's consideration. This task is expected to be complete by July 1, 2004.

(B) Designate responsibility for Alternative Fuel program

Agree – The City Manager has directed Danny Johnson, Fleet Management Director, to establish criteria and objectives for the purchase and operation of CNG fueled vehicles. This effort will encompass all appropriate factors relating to the purchase and operation of CNG fueled vehicles. The City Manager expects to review proposals for enhanced criteria and evaluation by December 31, 2003.

(C) Require submission of reports documenting efforts and outcomes relating to increased alternate fuel usage in the City Fleet.

Agree – We will continue to submit progress reports measuring the City's commitment to reduce volatile organic compound (VOC) emissions. This commitment is one of four major environmental commitments by the City as a member of the National Environmental Performance Track program established by the EPA. This documentation of effort and outcomes will include all appropriate actions. The reports will be provided to the City Manager and the EPA.

(D) Designate responsible party for waiver application to State ADEQ

Disagree-The state agency responsible for administering the waiver program has not established a process, and has been subjected to budget cuts that make it unlikely a process will be established this fiscal year. We will continue to monitor this situation, and adjust accordingly.

[19] Although the original Management Response was submitted on two pages, it has been reproduced here in its entirety on one page to conserve space.